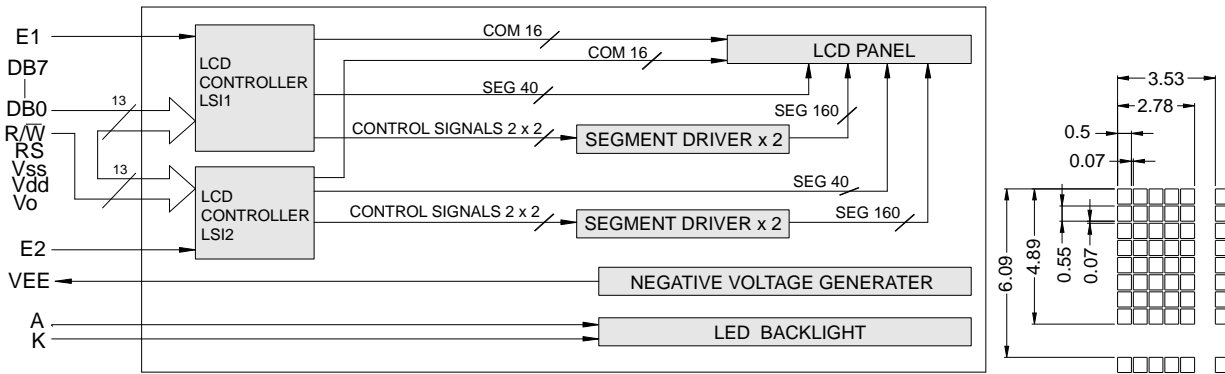
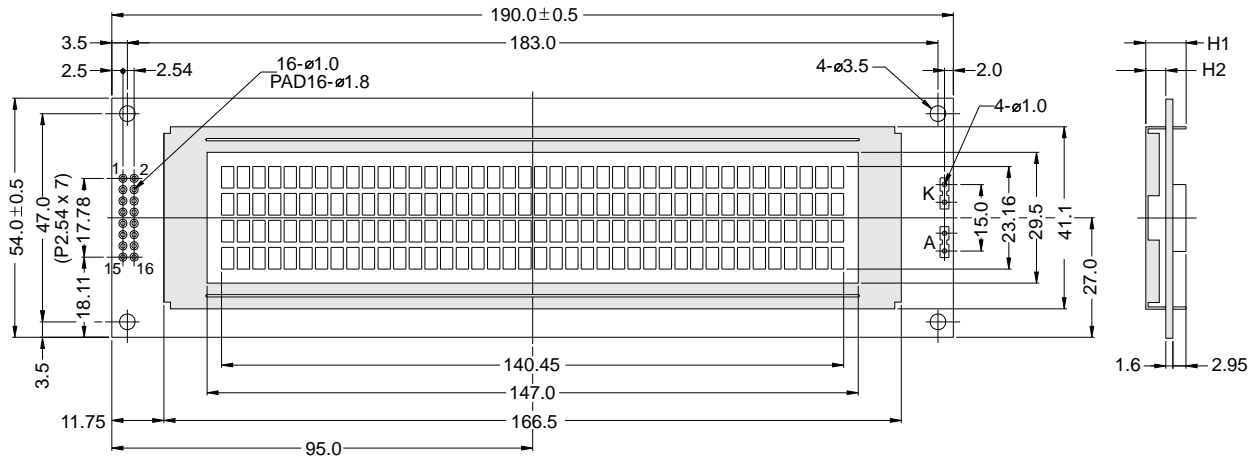




OUTLINE DIMENSION & BLOCK DIAGRAM



The tolerance unless classified $\pm 0.3\text{mm}$

MECHANICAL SPECIFICATION			
Overall Size	190.0 x 54.0	Module	H2 / H1
View Area	147.0 x 29.50	W / O B/L	4.5 / 9.1
Dot Size	0.50 x 0.55	EL B/L	4.5 / 9.1
Dot Pitch	0.57 x 0.62	LED B/L	9.0 / 13.6

PIN ASSIGNMENT		
Pin no.	Symbol	Function
1	DB7	Data bus line
2	DB6	Data bus line
3	DB5	Data bus line
4	DB4	Data bus line
5	DB3	Data bus line
6	DB2	Data bus line
7	DB1	Data bus line
8	DB0	Data bus line
9	E1	Enable 1
10	R/W	Data read / write
11	RS	Register select signal
12	Vo	Contrast Adjust
13	Vss	Power supply(GND)
14	Vdd	Power supply(+)
15	E2	Enable 2
16	Vee	Negative voltage
17	A	Power supply for LED B/L (+)
18	K	Power supply for LED B/L (-)

ABSOLUTE MAXIMUM RATING									
Item	Symbol	Condition	Min.	Max.	Units				
Supply for logic voltage	Vdd-Vss	25°C	-0.3	7	V				
LCD driving supply voltage	Vdd-Vee	25°C	-0.3	13	V				
Input voltage	Vin	25°C	-0.3	Vdd+0.3	V				
ELECTRICAL CHARACTERISTICS									
Item	Symbol	Condition	Min.	Typical	Max.	Units			
Power supply voltage	Vdd-Vss	25°C	2.7	-	5.5	V			
LCD operation voltage	Vop	Top	N	W	N	W	V		
		-20°C	-	7.1	-	7.5	-	V	
		0°C	4.8	-	4.8	-	4.9	-	V
		25°C	4.5	6.1	4.6	6.4	4.7	6.7	V
		50°C	4.4	-	4.5	-	4.6	-	V
		70°C	-	5.7	-	6	-	6.3	V
LCM current consumption (No B/L)	Idd	Vdd=5V	-	4	7	mA			
Backlight current consumption	LED/edge	VB/L=4.2V	-	-	-	mA			
	LED/array	VB/L=4.2V	-	220	-	mA			

REMARK

LCD option: STN, TN, FSTN

Backlight Option: LED, EL Backlight feature, other Specs not available on catalog is under request.